THE FAMILY OECONESIDAE (TRICHOPTERA) FROM NEW ZEALAND AND TASMANIA

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Abstract

The Tribe Oeconesini Tillyard is raised to family level. It includes five New Zealand genera, *Oeconesus* McLachlan, *Pseudoeconesus* McLachlan, *Tarapsyche* McFarlane, *Zelandopsyche* Tillyard and *Zepsyche* McFarlane, and one new genus *Tascuna* from Tasmania.

Introduction

The Australian and New Zealand genera incorporated in the family Sericostomatidae by Mosely and Kimmins (1953) have created many taxonomic problems. Investigations in some of these groups resulted in segregation of the Australian genus *Conoesucus* Mosely, characterized by atrophied scutal warts, into a subfamily Conoesucinae by Ross (1967), and the genus *Tasimia* Mosely into a family Tasimiidae by Riek (1968). Yet another easily separated group of three genera, *Oeconesus* McLachlan, *Pseudoeconesus* McLachlan and *Zelandopsyche* Tillyard appeared to Tillyard (1921) so distinct that he placed them into a separate tribe Oeconesini. Two further genera, *Tarapsyche* and *Zepsyche,* were added to this tribe by McFarlane (1960).

A large, unusual species was discovered in Tasmania, which, unlike most other Australian caddis-flies, keeps the wings folded flat over the body in resting position. A question immediately arose as to its family relationship, and Riek (1970) suggested that this so far undescribed species should be placed in the family Goeridae. The reduced segmentation of the maillary palpi in the male, the position and shape of scutal warts, as well as R_1 joining R_2 before the wing margin appeared to be characters similar to those observed in the New Zealand tribe Oeconesini. This Tasmanian insect is generically distinct from those in New Zealand, and is described in this paper as *Tascuna ignota* new genus and species. These six genera together now constitute the family Oeconesidae. Tillyard (1921) did not select the type genus, but *Oeconesus* McLachlan from New Zealand became the type genus of Tillyard's tribe Oeconesini by virtue of its name, and consequently remains as the type of the family.

Family Oeconesidae Tillyard stat. nov.

Oeconesini Tillyard, 1921: 348; Wise, 1973: 177.

Sericostomatidae (part) Mosely and Kimmins, 1953: 97-121.

Type genus: *Oeconesus* McLachlan (1862).

Family diagnosis: Ocelli absent; antennae about as long as, or slightly longer than the anterior wings, first segment enlarged but not

exceeding the length of the head; maxillary palpi one- or two-segmented in male, five-segmented in female. Wings broad, rounded apically, venation differing in sexes, often reduced or modified in male; R_1, joining R_2 just before wing margin in both anterior and posterior wings and in both sexes (except posterior wing of *Zepsyche*). Mesocutum with two elongated warts, scutellum with single median wart.

Spurs 2:4:4.

This family closely resembles the family Goeridae, but is separated by basic differences in wing venation, the length of first antennal segment, and the number of segments in male maillary palpi.

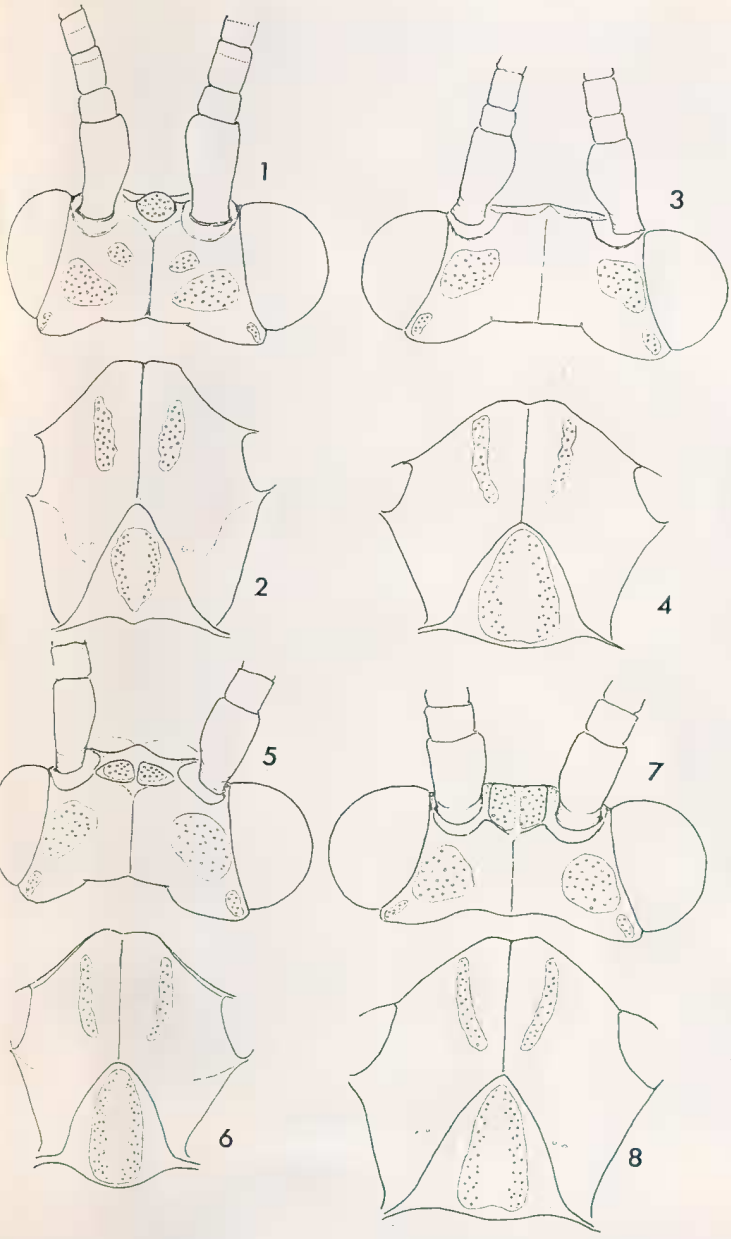
Key to the genera of the family Oeconesidae
(*Males only*)

1. Maxillary palpi single segmented 2
–. Maxillary palpi two segmented 4
2. Maxillary palpi broad, flattened 3
–. Maxillary palpi cylindrical, gently curved ..... *Tascuna*
3. Anterior wing with upper edge of discoidal cell straight, or slightly curved anteriorly ..... *Oeconesus*
–. Anterior wing with upper edge of discoidal cell curved posteriorly* ..... *Pseudoeconesus*
4. Anterior wing with discoidal cell very short, its length less than half the distance from the discoidal cell to the wing margin .... *Tarapsyche*
–. Anterior wing with discoidal cell long, about the same length, or only slightly shorter than the distance from the discoidal cell to the wing margin 5
5. Anterior wing with deep, slightly curved longitudinal central groove ..... *Zepsyche*
–. Anterior wing without such groove ..... *Zelandopsyche*

* Footnote: "Excised" in the terminology of Mosely and Kimmins (1953).

The complete list of the species included in the five New Zealand genera has been published by Wise (1973).

The warts on dorsal surface of the head (Figs 1-8) appear to be important in generic classification, but, unfortunately, they have not been figured previously, nor were all the species available for examination. Of the four which were available, *Tascuna ignota* (Fig. 1) is the only one with anteromesal as well as anterolateral warts present, the former distinctly elevated and undivided. Anterolateral warts are absent in all three New Zealand species, but *Oeconesus maori* (Fig. 3) also lacks the anteromesal wart. All four species examined have long and narrow postocular warts.



FIGS 1-8. Dorsal view of the head, mesoscutum and scutellum. (1-2) *Tascuna ignota* gen. et sp. n. paratype ♂; (3-4) *Oeconesus maori* McLach. ♂; (5-6) *Pseudoeconesus karorienis* Mos. ♂; (7-8) *Zelandopsyche ingens* Till. ♂.

Tascuna gen. nov.

Type species: *Tascuna ignota* gen. et sp. n.

Anterior wings sparsely covered with stiff, bristle-like hairs; venation aberrant in male with anal veins completely absent; posterior wing anal field widened to a fan, discoidal cell very small. Maxillary palpi in male upturned in front of the face, slightly curved, single segmented, apex covered with short, fine and dense group of hairs. Mesoscutum with two elongate warts, scutellum with one large median, posteriorly-pointed wart. Legs slender, densely covered with fine hairs, denser on tibiae and tarsi than on femura. Spurs covered with fine dense pubescence.

Tascuna ignota sp. n.

Figs 1-2, 9-13

Insect large, brown; anterior wings in resting position kept flat above the body, yellowish-brown, densely and irregularly mottled with dark brown, irregular spots at the basal half, less densely distally; an oblique, more or less distinct, dark brown transverse band located at the apical third; venation aberrant in male with reduction in M-Cu sector and anal veins completely absent. Posterior wings broad with wide anal fan, uniformly yellowish-brown with exception of some mottling at the subcostal area.

Antennae exceed the length of anterior wings by approx. 1/5 of their length, first segment large, second and subsequent ones small cylindrical, each with a median encircling row of small bristles.

♂ genitalia: Dorsal margin of segment 9 with short, rounded median lobe; segment 10 long and slender; deeply excised distally; superior appendages slender, rod-like; the two segmented inferior appendages are short, coxopodite semicircular in transverse section, ventrally with acutely produced distal angles, the upper margin with a short rounded median process and longer lateral process; harpago in form of a short finger-like process, the rounded apex dorsally covered with a group of short, strongly chitinized spines; phallus with distally pointed and divergent parameres.

♀ unknown.

Length of anterior wing: ♂ 16-17 mm.

Type material: Holotype ♂ (T-4793), 2 ♂ paratypes (T4794-T4795) Waldheim, Cradle Mtn. National Park, Tas., 7 Feb. 1971, A. Neboiss, (Nat. Mus. of Vic.) (holotype and 1 paratype mounted dry); 6 ♂ paratypes 10 mls. E. Strahan, Tas., 20 Feb. 1963, I. F. B. Common and M. S. Upton (ANIC, Canberra); 1 ♂ paratype, same loc., 6 Feb. 1967, E. F. Riek (ANIC, Canberra).

Distribution: North-western Tasmania.

Acknowledgements

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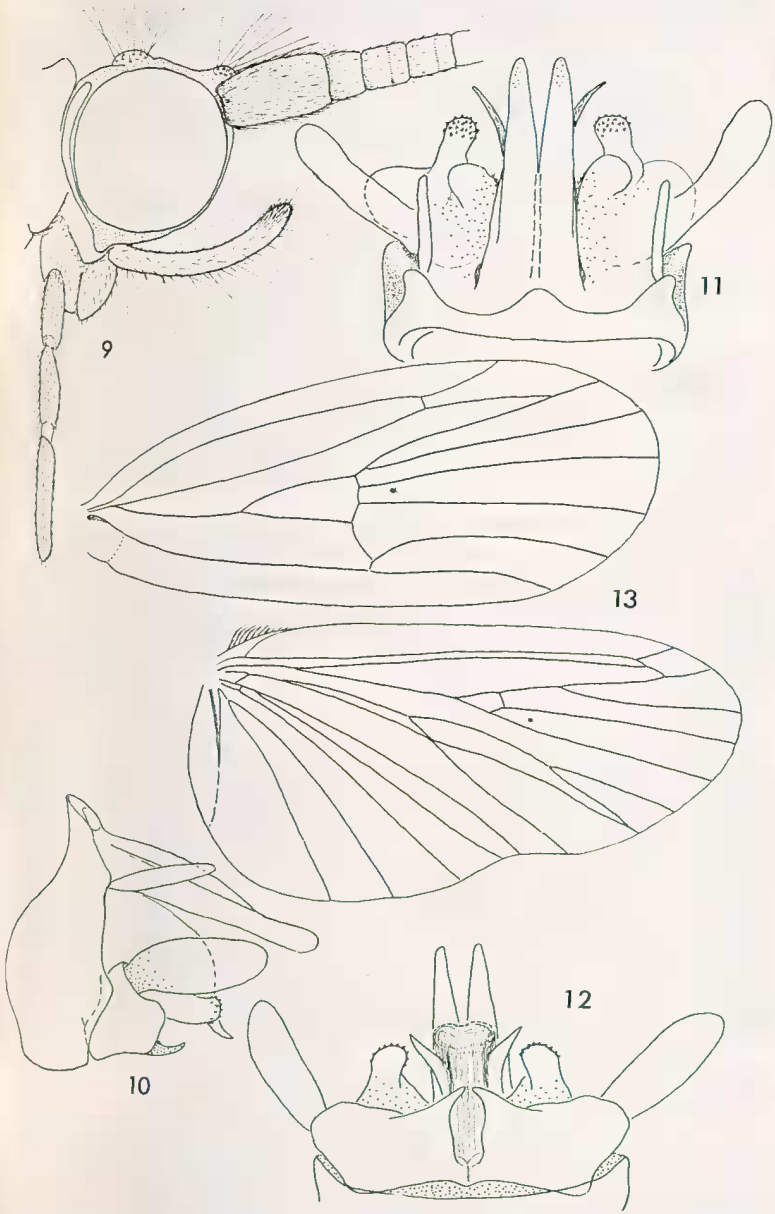

FIGS 9-13. *Tascuna ignota* gen. et sp. n. paratype ♂. (9) head lateral; (10) ♂ genitalia lateral; (11) ♂ genitalia dorsal; (12) ♂ genitalia ventral; (13) ♂ wing venation.

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AN AUSTRALIAN HOST RECORD FOR *PHALACROTOPHORA* ENDERLEIN (DIPTERA: PHORIDAE)

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Collections of ladybird larvae (Coleoptera, Coccinellidae) from *Acacia* trees on the La Trobe University campus during October-December, 1974, included 64 larvae of *Halyzia mellyi* Mulsant, all of which were retained for rearing to adults. Two individuals yielded specimens of a species of *Phalacrotophora* Enderlein (Phoridae): five individuals of this gregarious parasite emerged from one *Halyzia* pupa, and four from the other. There do not appear to be any published host records for this unusual phorid in Australia, although species of *Phalacrotophora* are well known as coccinellid parasites in Europe (Colyer 1952, Klausnitzer 1969, for examples) and Japan (Maeta 1969). Published biological data on the genus refer almost entirely to two European species, neither of which is recorded from Australia. The individuals reared from *Halyzia* appear to represent an undescribed species (D. H. Colless in lit. 1975), and specimens have been deposited in the Australian National Insect Collection, Canberra. Further records of Phoridae, and other coccinellid parasites, would be of considerable interest in assessing the augmentation of these beetles in biological control contexts (Hodek, 1973): there appears to have been no systematic survey of natural enemies of Coccinellidae in Australia.

I am very grateful to Dr D. H. Colless (C.S.I.R.O., Canberra) for his comments on the Phoridae.

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